

REMARKS/ARGUMENTS

Claims 1, 3-8, 10, 11, and 13-16 are pending.

Applicant respectfully traverses the restriction requirement as inappropriate for the reasons set forth below. In addition, Applicant asserts that there would be no undue burden in examining these alleged two sets of claims, as the Examiner has defined. The fees for examination of these claims had been remitted in the filing of the national phase application under 35 U.S.C. 371. Applicant merely requests that he receive examination that he has paid for. Furthermore, the case had been examined *in toto* from the initial 371 filing until this office action.

For guidance, Applicant has reviewed the “International Preliminary Report on Patentability (dated 03 April 2006) of Application No. PCT/IB2004/051795,” of published application WO 2005/031859) hereinafter, “IPRP,” that corresponds to this national application. The IPRP noted no issues with a “Lack of Unity of Invention” with respect to the pending claims (claims 1-11); the IPRP concurs with the “observance of this requirement is checked by the International Searching Authority and may be relevant to the national (or regional) phase. (MPEP §1850), Paragraph I.” The review made by WIPO regarding Applicant’s invention showed no need to parse out claims 1-11 and found no undue burden in performing a search on these claims. Thus, the breaking up of the original claims 1-11 along with claims 13-16 (as proposed in this Office Action) is not really supported or is appropriate.

For convenience, a copy of this IPRP is enclosed, and follows the Remarks/Arguments.

In a regular U.S. national application, the framework of statutes and rules require the USPTO Examiner to make an Agency determination that independent or distinct inventions are claimed, and to support such determination by appropriate argument, reasoning, and facts.

However, in a U.S. national phase PCT entry (35 U.S.C. 371) the framework of statutes and rules require the USPTO Examiner to make an Agency determination that there is lack of Unity of Invention , according to the PCT Articles, Rules (13), and Administrative Instructions including Annex B. (U.S. Court Decision on point: *Caterpillar Tractor Co. v . Commissioner of Patents and Trademarks* , 650 F. Supp. 218, 231 USPQ 590 (E.D. Va. 1986))

Thus, the restriction requirement applied under 35 U.S.C. 121 is not appropriate. In light of the arguments presented, Applicant requests that the restriction requirement be withdrawn and the claims continue to be examined as a whole.

Applicant respectfully asserts that the claims are distinct over the prior art and that the application is in condition for allowance. Accordingly, a notice of allowance is earnestly solicited.

Please charge any fees other than the issue fee and credit any overpayments to Deposit Account **50-4019**.

Respectfully submitted,

Date: 06 OCT 2009

By: /Peter Zawilski/
Peter Zawilski, Reg. No. 43,305
(408) 474-9063

Correspondence Address:

Intellectual Property & Licensing
NXP B.V.
1109 McKay Drive; MS-41
San Jose, CA 95131 USA

Customer Number: 65913

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44*bis*)

| | | |
|---|--|--|
| Applicant's or agent's file reference PHNL031167WO | FOR FURTHER ACTION | See item 4 below |
| International application No. PCT/IB2004/051795 | International filing date (<i>day/month/year</i>) 20 September 2004 (20.09.2004) | Priority date (<i>day/month/year</i>) 30 September 2003 (30.09.2003) |
| International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237 | | |
| Applicant KONINKLIJKE PHILIPS ELECTRONICS N.V. | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|---|---|-----------|---------------------|-------------------------------------|------------|----------|--------------------------|-------------|--|--------------------------|------------|----------------------------|-------------------------------------|-----------|---|--------------------------|------------|-------------------------|--------------------------|-------------|--|--------------------------|--------------|---|
| 1. | This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 <i>bis</i> .1(a). | | | | | | | | | | | | | | | | | | | | | | | | |
| 2. | <p>This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p>In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.</p> | | | | | | | | | | | | | | | | | | | | | | | | |
| 3. | <p>This report contains indications relating to the following items:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 10%; text-align: center;"><input checked="" type="checkbox"/></td> <td style="width: 30%;">Box No. I</td> <td style="width: 80%;">Basis of the report</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table> | <input checked="" type="checkbox"/> | Box No. I | Basis of the report | <input checked="" type="checkbox"/> | Box No. II | Priority | <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability | <input type="checkbox"/> | Box No. IV | Lack of unity of invention | <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement | <input type="checkbox"/> | Box No. VI | Certain documents cited | <input type="checkbox"/> | Box No. VII | Certain defects in the international application | <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report | | | | | | | | | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> | Box No. II | Priority | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention | | | | | | | | | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. VI | Certain documents cited | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application | | | | | | | | | | | | | | | | | | | | | | | |
| 4. | The International Bureau will communicate this report to designated Offices in accordance with Rules 44 <i>bis</i> .3(c) and 93 <i>bis</i> .1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44 <i>bis</i> .2). | | | | | | | | | | | | | | | | | | | | | | | | |

| | |
|---|--|
| The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland | Date of issuance of this report 03 April 2006 (03.04.2006) |
| Facsimile No. +41 22 740 14 35 | Authorized officer <div style="text-align: center; font-weight: bold; margin-top: 10px;">Idhir Britel</div> |
| Telephone No. +41 22 338 70 60 | |

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

REC'D 07 FEB 2005

WIPO

PCT

PCT

To:

see form PCT/ISA/220

7/4

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/B2004/051795

International filing date (day/month/year)
20.09.2004

Priority date (day/month/year)
30.09.2003

International Patent Classification (IPC) or both national classification and IPC
H01L21/8247, H01L21/28, H01L27/115, H01L21/336, H01L29/788

Applicant
KONINKLIJKE PHILIPS ELECTRONICS N.V.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office - P.B. 5818 Patentlaan 2
NL-2280 HV Rijswijk - Pays Bas
Tel. +31 70 340 - 2040 Tx: 31 651 epo nl
Fax: +31 70 340 - 3016

Authorized Officer

Albrecht, C

Telephone No. +31 70 340-2270



**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/IB2004/051795

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/IB2004/051795

Box No. II Priority

1. ☐ The following document has not been furnished:

☐ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. ☒ It has not been possible to consider the validity of the priority claim because a copy of the priority document was not available to the ISA at the time that the search was conducted (Rule 17.1). This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

4. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | |
|-------------------------------|-------------|--------|
| Novelty (N) | Yes: Claims | |
| | No: Claims | 1 - 11 |
| Inventive step (IS) | Yes: Claims | |
| | No: Claims | 1 - 11 |
| Industrial applicability (IA) | Yes: Claims | 1 - 11 |
| | No: Claims | |

2. Citations and explanations

see separate sheet

Re Item V.

1 The following documents are referred to in this communication:

D1: US-A-5 991 204 (CHANG ET AL) 23 November 1999 (1999-11-23)
D2: WO 00/51188 A1 (CHEN, CHIOU-FENG) 31 August 2000 (2000-08-31)
D3: DE 197 30 762 A1 (LG SEMICON CO., LTD., CHEONGJU, KR) 2 July 1998
(1998-07-02)

2 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1 - 11 is not new in the sense of Article 33(2) PCT.

2.1 Independent claims 1 and 8

Document D1 discloses (the references in parentheses applying to this document):

A method of manufacturing a 2-transistor memory cell (column 8, line 55 - c. 9, l. 57; fig. 6a - 7d) comprising a memory stack transistor and selection transistor with the following steps:

forming tunnel dielectric layer (ETOX (= EPROM tunnel oxide) process; c. 8, l. 55 - 56; fig. 7a);

forming the memory stack by providing a floating gate layer and a control gate layer (fig. 7a);

etching the CG layer to form the CG (fig. 7a);

forming spacers against CG (c. 8, l. 59 - 61; fig. 6a and 7a);

etching the FG layer by using the spacers as hard mask to form the FG (c. 8, l. 62 - 65; fig. 6b and 7b);

The subject-matter of claim 8 is the result of the manufacturing process of claim 1 therefore also disclosed by D1.

See also D2 (page 18, line 14 - p. 22, l. 5; fig. 13A - 13G) and D3 (c. 3, l. 40 - c. 5 l. 22; fig. 4A - 4E) disclosing the same subject-matter.

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/IB2004/051795

2.2 Dependent claims 2 - 7 and 9 - 11 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty, the reasons being as follows:

D1 discloses further:

[claim 4] etch removal of the tunnel dielectric layer by using the spacers as hard mask at the location where the selecting transistor is to be formed (c. 9, l. 1 - 2; fig. 6b and 7b);
[claim 5] providing FG dielectric (109; fig. 7c) and access gate dielectric (select gate oxide 126) at the same time (c.9, l. 39 - 41);
[claim 6] interlayer dielectric layer (fig. 7a) removing after forming of CG;
[claim 7] forming the access gate (122 SG; fig. 7c) with present spacer (106);

[claim 10] a spacer thicker than the floating gate dielectric (109; see e.g. fig. 1e);
and [claim 11] flash EEPROM device (title).

D2 discloses further the subject-matter of claims 2, 3 and 9 by teaching the formation of the spacer with silicon nitride as spacer material (146, page 19, l. 6 - 10).

3 The subject-matter of claims 1 - 11 appears to be industrially applicable (Article 33(4) PCT)